NESTING HABITS OF BIRDS AT STAMFORD, CONNECTICUT, AS AFFECTED BY THE COLD SPRING OF 1907.

BY LOUIS H. PORTER.

THE spring of 1907 was abnormally cold and backward. The prevailing temperature during the last week of May and the first week of June was about the same as we usually expect the middle of April. While vegetation was somewhat backward, the effect on the nesting habits of our birds was even more pronounced and interesting.

During the migrating season I saw very few birds, less than a tenth as many migrants as usual, but those that I did see were at about the usual dates, and did not average later than normal. During the nesting season, however, birds seemed more abundant than usual, but their habits were materially altered. I did not obtain sufficient data to justify any broad generalization, but from my observations it seemed that most birds commenced nest building at about the average calendar date, but that as a result of the cold season the more delicate species took very much longer in their nest building; when the nest was finally completed, the egg laying period was also protracted, extending to two or three times its usual period; and finally that after the set was completed, the birds, in some cases at least, did not immediately commence sitting.

If other observers noticed a similar condition, an interesting question is raised as to the extent to which this protraction of the breeding period was due to volition on the bird's part, or to the physical effect of the cold weather upon the genital organs.

My records show the following data in support of these conclusions.

Helminthophila pinus. This bird breeds abundantly at Stamford, and is the most regular in its habits of any bird I know of. My records prior to this year give the earliest breeding date, May 27, and the latest June 10 (young nearly ready to fly) with an average of May 29. All the sets I had taken May 30, or later, had incubation well advanced. Other published records which I consulted agree with this experience. Full sets can usually be found

the last few days of May. This year's record shows a marked departure from the normal as follows: —

May 28, found a nest just finished; June 4, this nest had three eggs; June 8, it had four eggs, in which incubation had just begun.

May 28, found nest just finished. June 4, this nest had two eggs; June 8, it had three fresh eggs.

June 6, found nest with one egg; June 10, four fresh eggs.

June 6, found nest with two eggs. June 10, five fresh eggs.

June 6, found nest just finished. June 10, three fresh eggs, female sitting very close.

June 10, found nest, six eggs, incubation just begun.

June 15, found nest, four eggs, incubation five or six days advanced.

June 15, found nest with one egg.

June 15, found nest with two eggs.

I was unable to get out after June 15, and therefore could not watch these last two nests, or take any later notes. The first full set of eggs, however, was June 8, and the average date for a full set of fresh eggs could apparently be put at June 10 or 12, or about two weeks later than the average.

While the data are not so satisfactory as to deposition of eggs, it appears that in one case, the set was not complete in nine days, only three eggs having been laid, in another four eggs were laid in about eight days, in three others three eggs in four days, the latter all toward the end of the season.

I did not find any nests of this species in process of construction.

Dendroica pensylvanica. I have invariably found these eggs from May 29 to June 1. This year the birds were seen abundantly on May 11, and I took a set of fresh eggs June 10, and another somewhat incubated June 15. Aside from the later nesting averages, the chief interest in this species is connected with building times.

May 23, found one nest completed and another just commenced, the birds being hard at work. Both nests were abandoned, although the birds were seen around for some weeks, and neither nest was apparently disturbed.

May 27, found nest half complete, birds hard at work. May 30, there was no apparent change, and the nest was apparently

deserted. The weather had been exceedingly cold and windy. June 10 this nest had four fresh eggs.

Wilsonia mitrata. Prior to 1907, found nests with young nearly ready to fly, June 7, and June 10, and laying female shot May 30. I had not seen this species in Stamford prior to 1904, when I saw two pairs. They have increased rapidly, and this year I saw twenty-five or thirty birds and, in company with Mr. W. H. Hoyt, found eight nests. Chapman's 'Warblers of North America' gives nesting dates for New York City of May 26 to June 15, and Bishop for New Haven of May 27 to June 24. My dates for 1907 were June 8, one set, June 12, two sets, June 15, three sets, June 22, one set, all but the last being fresh or nearly fresh. These eggs seem to average nearly three weeks later than my previous experience, but are not apparently so exceptional as compared with Messrs. Chapman and Bishop's records. The chief interest in this bird is in the slow progress made.

The first bird was seen May 11; May 18 perhaps the same bird was seen in the same spot, near a nest of the previous year. May 23, the bird was seen building, the nest perhaps one third completed. May 30, nest built very high and deep, but not finished. June 6, nest finished. The birds never used the nest, but were seen around on the 6th. On the 10th they were seen disturbed in another part of the woods, but no nest was found. In September the nest they apparently used was found about a hundred yards away. These birds therefore spent thirteen days in building a nest which they subsequently abandoned, building another which was not commenced until after June 10, or three weeks after the time they first began to build.

On May 28 I found another nest just completed. On June 4 this nest had two eggs. On June 8, it had two warbler eggs and one cowbird's egg. All these eggs were perfectly fresh.

On June 4, I found a nest just commenced, the birds being busy building. June 8, the nest was finished, but the bird not seen. June 15, three warbler eggs, and one cowbird; incubation just commenced and bird sitting very close.

June 8, found a nest just finished. June 15, four fresh eggs, bird sitting very close.

On June 15 a nest with three eggs was found, which from the

location, the construction of the nest, the appearance of the eggs, the appearance and actions of the birds, I believe to be a second set of the nest of June 8. Mr. Hoyt took this set June 22, with four eggs, and incubation four or five days advanced.

With this species the authorities give the average normal time from commencing the nest to the completion of the set of eggs as about a week. This year nesting commenced not much later than usual, but the time until incubation commenced was extended from a normal of one week to from two to three weeks.

Geothlypis trichas brachidactyla. I have previously taken sets of these eggs from May 28 to June 6. Chapman gives New York City dates as May 25 to June 15, and Bishop, New Haven dates as May 28 to June 18.

This year I took a set of fresh eggs June 10, and a set with incubation just begun, June 15.

This second nest was found finished on June 4. On June 12 there were four eggs, but the birds were not seen, although I watched nearly an hour. On June 15, incubation had just commenced. The period of deposit of eggs was in this case clearly prolonged, and the dates seem later than the average.

Icteria virens. This species breeds abundantly, dates in former years running from May 22 to June 15. I found six nests in varying stages, but none of them contained eggs up to June 15.

Seiurus aurocapillus. I have previously taken these eggs from May 23 to June 6. The latest fresh eggs were May 26, and in all sets subsequent to that date incubation was advanced. Chapman gives New York City dates of May 20 to July 5, and Bishop, New Haven, May 30 to July 10. The later dates are clearly second sets. The average for the first sets would therefore appear to be the last week in May. This year I found four sets, all fresh,—one May 30, one June 10, and two June 12. The nest of May 30 was found finished on May 23. On June 12, Mr. Hoyt found a nest building and took a set of fresh eggs June 22. This species apparently averaged two weeks later than usual.

Seiurus motacilla. These birds are hardy, usually arriving the middle of April, and nesting being well under way by May 15. We naturally should not expect the cold season to affect these birds.

The only nest I found was on May 23, containing young birds

just hatched. On June 10, in another woods, I saw a young of the year just able to fly. These dates are if anything somewhat earlier than my usual experience. Apparently these birds nested without regard to the temperature.

Setophaga ruticilla. The three sets found this year were not as much later than the normal as most of the warblers. The dates were June 8, incubation begun; June 16, incubation almost complete; June 22, incubation advanced. The nest of June 8 was half completed on May 21, was finished and birds not seen May 28, and had three eggs about two days incubated on June 8.

Vireo olivaceus. This species breeds abundantly. Normally two or three nests can be found any day from June 1 to June 15. Eggs taken after June 12 have all been incubated. This year only one nest was found, and that was building on June 15. They were from two to three weeks later than usual.

Vireo noveboracensis. These birds were not apparently much later in commencing nesting, but took longer to build.

May 25 found two nests about half finished; May 28 no change in appearance of either nest. June 4, birds hard at work at both nests, which appeared to be completed. June 12, one nest had four eggs, and the other three. In each case the bird was sitting very close, and the eggs were fresh.

June 1, found nest almost complete. June 9, one egg. I was unable to visit this nest again. On the mornings of June 2 and 3, the thermometer was at 45° F.

Empidonax virescens. In the colony I reported in last year's 'Auk,' two nests were taken June 2, and one June 7. This year I frequently saw several birds in the vicinity of the breeding site. June 12, a nest was found commenced; June 16 it was completed; June 22, three eggs with incubation just begun. These birds were therefore from two to three weeks later than the same colony of birds last year.

Pipilo erythrophthalmus. This is another hardy bird. My previous dates run from May 21 to June 5. These birds seemed unaffected by the cold. I found five nests from May 28 to June 6. Two of the nests were six feet high in cedar trees. I have not before found this species nesting off the ground. The question suggests itself whether these birds varied their usual nesting site on account of the cold wet season.

Parus atricapillus. The normal dates for fresh eggs are from May 10 to May 30. This year the only nest found was building on May 25, and had a set of seven nearly fresh eggs on June 4.

The divergence from the normal nesting did not attract my notice until it was too late to take any notes or data concerning the commoner birds, whose nests I saw in numbers, without collecting or accurately noting. At the same time, in the case of some of the rarer nests I found this year I have no other data with which this year's can be compared. The foregoing species are therefore the only ones as to which I have any accurate data available.

The data given seem to show, that the tender and delicate birds averaged about two weeks later than usual in deposit of eggs in 1907, and that they spent much more than the normal time in nest building. The conclusion seems inevitable that both of these phenomena were directly caused by the unseasonably cold weather.

THE BREEDING SEASON OF THE AMERICAN BARN OWL (*STRIX PRATINCOLA*) *IN SOUTH CAROLINA.*

BY ARTHUR T. WAYNE.

IN Audubon's 'Ornithological Biography,' Vol. II, pp. 404–405, he states the following concerning the breeding of this species:

"Having arrived at Charleston, South Carolina, in October, 1833, as soon as my family and myself were settled in the house of my friend the Reverend John Bachman, I received information that a pair of owls (of the present species) had a nest in the upper story of an abandoned sugar-house in the city, when I immediately proceeded to the place, accompanied by Dr. Samuel Wilson and William Kunhardt, Esq. We ascended cautiously to the place, I having pulled off my boots to prevent noise. When we reached it, I found a sort of large garret filled with sugar-moulds, and lighted by several windows, one of which had two panes broken. I at once discovered the spot where the owls were by the hissing sounds of the young ones, and approached slowly and cautiously